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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,680	02/20/2004	Yoshitaka Asou		6994

7590 12/28/2006
Naoki Nishimura
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EXAMINER

ZHENG, LOIS L

ART UNIT	PAPER NUMBER
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1742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/783,680	Applicant(s) ASOU ET AL	
	Examiner Lois Zheng	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/30/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1-3 are currently under examination.

Abstract

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because the abstract is too long(i.e. more than 150 words). Correction is required. See MPEP § 608.01(b).

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Numeral 2 as shown in Fig. 2 is not mentioned in the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures

Art Unit: 1742

appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. US 6,719,852 B2(Oshima), in view of WO 02/07902(WO'902) and further in view of Hartley et al. US 4,243,434(Hartley).

An English translation of WO'902 is attached to this Office Action. The examiner relies on the English translation for establishing the rejection ground.

Oshima teaches applying a trivalent Cr containing coating solution to zinc plated metal surfaces to improve the corrosion resistance, wherein the coating solution is free of hexavalent Cr(abstract, col. 2 lines 34-44). Oshima further teaches the zinc plated metal surface is subjected to activation with dilute nitric acid followed by rinsing(col. 9 lines 51-54). The activated zinc plated surface is then treated with a trivalent Cr containing coating solution comprising Cr(III) salt(i.e. inorganic salt), organic acid such

Art Unit: 1742

as oxalic acid, dicarboxylic acid, and silica(col. 3 line 66 – col. 5 line 61). The coated surface is then rinsed and dried(col. 9 lines 51-54).

However, Oshima does not explicitly teach the formation of black coating, the presence of iron in the conversion coating layer and the claimed finish treatment.

WO'902 teaches a Cr(VI)-free Cr(III) containing coating solution applied to zinc plated metal surfaces, wherein the Cr(III) containing coating solution comprises, Cr(III) salt, organic acid and silica(page 6, 2nd paragraph; page 7, 1st paragraph; page 8, 4th paragraph of the translation), which is very similar to the Cr(III) of Oshima. WO'902 further teaches that iron can added to the coating solution in order to achieve a black color finish(page 8, 3rd paragraph of the translation).

Therefore, it would have been obvious to one of ordinary skill in the art to have added iron as taught by WO'902 into the Cr(III) coating solution of Oshima in order to achieve a black color coating finish as taught by WO'902.

The application of Cr(III) and iron containing coating solution of Oshima in view of WO'902 reads on the claimed step of forming a black coating.

Hartley teaches coating of metal working tools with a chromium containing coating solution(abstract). Hartley further teaches that multiple coating applications can be carried out when thicker coating is desired(col. 2 lines 29-33). Based on the thickness produced by Hartley's single coating layer(0.0001 or 0.0002 inch) and final desired thicker coating layer(0.001 inch), the coating treatment have to be repeated for at least five times to reach the desired coating thickness.

Therefore, one of ordinary skill in the art would have found it obvious, in light of the teachings of Hartley, to have repeated the coating and rinsing steps at least one or more times in the process of Oshima in view of WO'902 in order to achieve the desired coating thickness.

Regarding claim 1, since the coating solution of Oshima in view of WO'902 and Hartley comprises Cr(III) salt and iron as recited in the claimed black coating forming step (20) and additionally organic acid and silica as recited in the claimed finish treatment step (30), the examiner concludes that repeating the conversion coating step once (i.e. total of two treatment cycles) as taught by Oshima in view of WO'902 and Hartley meets the limitations of the claimed black chromate treatment step (20) and the finishing treatment step (30).

Regarding claim 2, for the same reasons as stated above, the examiner concludes that repeating the conversion coating step twice (i.e. total of three treatment cycles) as taught by Oshima in view of WO'902 and Hartley meets the limitations of the claimed first and second black chromate treatment steps and the claimed finishing treatment step. In addition, one of ordinary skill in the art would have expected that the coating solution used in the finishing coating step to be less concentrated than the first black chromate coating step since the components in the coating solution would have been partially consumed by the previous two black chromate coating steps.

Regarding claim 3, Oshima further teaches that the coating solution comprises cobalt (col. 4 lines 33-45). For the same reasons as stated above, the examiner concludes that repeating the conversion coating step two more times in addition to what

Art Unit: 1742

is recited in claim 2(i.e. total of five treatment cycles) as taught by Oshima in view of WO'902 and Hartley meets the additional limitations of the two step finishing treatment step as claimed.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LLZ


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